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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/576,720 | 05/23/2000 | John J. Burns | FEL-001P | 3128 |
| J M Robertson 233 South Pine Street Spartanburg, SC 29302 | | | | |
| 7590 10/15/2007 | | | | |
| EXAMINER JOHNSON, JENNA LEIGH | | | | |
| ART UNIT PAPER NUMBER | | | | |
| 1794 | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/576,720

Applicant(s)

BURNS ET AL.

Examiner

Jenna-Leigh Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date: _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 27, 2007 has been entered.

Response to Amendment

2. The Amendment submitted on July 27, 2007, has been entered. Claims 1 – 24 have been cancelled. Claims 25, 26, 28, 29, 31, and 32 have been amended. Therefore, the pending claims are 25 – 32.
3. The amendment is sufficient to overcome the 35 USC 112 1st paragraph rejection set forth in the previous Office Action since the Applicant has removed the limitation that some of the fibers extended into, but not across the adhesive layer.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 25 – 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgenstern (2,970,365) in view of Stein et al. (6,287,407).

Morgenstern discloses a needled fabric comprising a nonwoven fabric layer wherein the surface of the fabric is coated with a binder layer that binds the surface fibers together (column 2, lines 8 – 13). The bonded fabric is then needled through the layer of adhesive, masking the adhesive layer (column 2, lines 13 – 23). Further, both surfaces of the nonwoven fabric can be coated with an adhesive prior to needling and multiple fleece layers with a binder coating can be joined together to form a composite

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fabric (column 2, lines 61 – 70). Particularly, heavier weight fleece articles can be built up by using multiple layers to form the final product (column 3, lines 15 – 18). Morgenstern teaches that needling forces fibers from the upper layer into the lower layer and a second needling operation from the opposite direction forces fibers from the lower layer into the upper layer (column 3, line 71 – column 3, line 12). The binder can be made from various materials, including thermoplastic binder materials, which become tacky when subjected to heat (column 3, lines 69 – 75). Morgenstern teaches that thermoplastic binders will add firmness to the needled fabric by bonding the transversely extending fibers, where the fibers contact the adhesive (column 3, line 75 – column 4, line 4). Further, the fleece material can be composed of any fiber including animal, vegetable, or synthetic fibers, and any desired fiber mixture (column 3, lines 20 – 25).

While, Morgenstern discloses that any known fibers can be sued to make the fleece material, Morgenstern fails to teach using polyester fibers. It is noted that polyester fibers are well known in the art and commonly used to make fabrics. Thus, it would have been obvious to one having ordinary skill in the art to choose polyester, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416. Further, using polyester fibers in the nonwoven fabric would have been obvious to one having ordinary skill in the art since all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results.

Finally, while Morgenstern suggest mixtures of fibers can be used to produce the nonwoven fabric, Morgenstern fails to teach adding an adhesive component to the nonwoven fabric. Stern is drawn to a needled, adhesively bonded fabric. The fabric comprises nonwoven layers bonded together by needling and an adhesive layer (column 2, lines 47 – 60). Further, the nonwoven fabric can include thermoplastic fibers, i.e., an adhesive component, mixed in to laminate the fibers and the adjacent layers

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to one another to further strengthen the composite fabric (column 1, lines 60 – 67). Particularly, the thermoplastic fibers in the nonwoven fabric bond the remaining fibers to one another and increase the strength of the base layer. Stern teaches that the fabric can also contain thermoplastic fibers which are chosen such that they are not activated, or softened, during the laminating stage (column 2, lines 3 – 7). Thus, it would have been obvious to one having ordinary skill in the art to add an adhesive component in the form of heat activated thermoplastic fibers, as taught by Stern et al. to the nonwoven fabric of Morgenstern since Stern teaches that the thermoplastic fibers when activated bond the remaining fibers to one another and increase the strength of the nonwoven fabric. Thus, claims 25 and 26 are rejected.

Additionally, Morgenstern discloses that the density of the product, the softness and hand, and other properties may be controlled to any desired degree (column 4, lines 10 –15). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the density of the fabric, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). Further, Morgenstern discloses that the density can be controlled to any desired degree and one of ordinary skill in the art would be able to choose a final density based on the desired end use of the nonwoven fabric. Thus, claim 27 is rejected.

Further, Morgenstern fails to teach the size and length of the fibers in the nonwoven fabric. However, Morgenstern does teach that any fibers can be used in the nonwoven fabric. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the density of the fabric, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). Further, the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the

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invention and a person of ordinary skill has good reason to pursue known options within his or her technical grasp. Thus, claim 28 is rejected.

Further, Morgenstern fails to teach using a dry adhesive binder on the surface of the fabric. Stern et al. discloses that an adhesive nonwoven fabric layer can be combined with the nonwoven fiber layers to bond them together. The adhesive fabric layer would be a solid, dry adhesive in fiber form until the fabric is heated to activated the binder. Therefore, it would have been obvious to one having ordinary skill in the art to substitute the adhesive nonwoven fabric layer, taught by Stern et al., for the liquid binder taught by Morgenstern, since both materials form an adhesive layer on the surface of the fabric and the adhesive fabric layer. Further, the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Thus, claims 29 is rejected.

6. Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgenstern and Stern et al. as applied to claim 29 above, and further in view of Brooks et al. (3,683,921).

The features of Morgenstern and Stern et al. have been set forth above. While the combination of Morgenstern and Stern et al. teach applying adhesive to the surface of the nonwoven fabric layers, both references fail to teach using a meltable scrim fabric. Brooks is drawn to a composite fabric comprising a scrim adhesive layer in the shape of a net (abstract). Further, the grid shaped scrim would inherently form a geometric pattern when activated to bond the adjacent layer. Thus, it would have been obvious to one having ordinary skill in the art to use known adhesive materials, such as the adhesive scrim layer disclosed by Brooks et al., as the adhesive layer in the combination of Morgenstern and Stern et al. since the dry adhesive layer can be used to produce a bonded surface on the nonwoven fabric layers. Further, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination

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would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Thus, claims 30 and 31 are rejected.

7. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morgenstern and Stern et al. as applied to claim 29 above, and further in view of JP 02286241 A (English Abstract).

The features of Morgenstern and Stern et al. have been set forth above. While the combination of Morgenstern and Stern et al. teach applying adhesive to the surface of the nonwoven fabric layers, both references fail to teach using a spunbonded adhesive fabric. JP 02286241 A is drawn to composite fabric comprising a surface adhesive layer. Particularly, a spunbonded polypropylene nonwoven fabric can be laminated to an adjacent nonwoven fabric with the spunbond polypropylene fabric being melted and acting as the adhesive agent (abstract). Thus, it would have been obvious to one having ordinary skill in the art to use known adhesive materials, such as the spunbond adhesive fabric disclosed by JP 0228641 A, as the adhesive layer in the combination of Morgenstern and Stern et al. since the dry adhesive layer can be used to produce a bonded surface on the nonwoven fabric layers. Further, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Thus, claim 32 is rejected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Johnson whose telephone number is (571) 272-1472. The examiner can normally be reached on Monday - Friday (8:00 - 5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jlj

October 12, 2007

/Jenna-Leigh Johnson/
Primary Examiner
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